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EXAMINER	
YOUNT, S	
ART UNIT	PAPER NUMBER
2411	16

DATE MAILED: 12/09/96

Please find below a communication from the EXAMINER in charge of this application.

Commissioner of Patents

Office Action Summary

Application No.
08/267,108

Applicant(s)
Paul Marshall

Examiner
Steven R. Yount

Group Art Unit
2411



☒ Responsive to communication(s) filed on Sep 28, 1996

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 85-92 and 94-127 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 85-92 and 94-127 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 85-92 and 94-127 are rejected under 35 U.S.C. 103(a) as unpatentable over "Cyberarts: Lanier of VPL on 'vroomies,' and VR's future" by Linda Rohrbough (the "Rohrbough" article) and "Virtual Reality: a Status Report" by Linda Jacobson (the "Jacobson" article) in view of "Virtual Reality Offers Growing Opportunity for Risk Takers" by Len Hindus (the "Hindus" article); "Virtual Reality is almost real" by Paul Saffo (the "Saffo" article); PV-Wave for Financial Applications ("PV-Wave 1"); PV-Wave Command Language ("PV-Wave 2"); and PV-Wave Point and Click Visual Data Analysis Software ("PV-Wave 3") as applied to claims 85-92 and 94-125 in the previous Office action (paper # 13) and for the reasons below.

3. Claims 85, 104, 106, 118 and 123-125 have been amended to recite, in the body of the claim and/or the preamble, that the input module or input receiving means receives "pre-processed" financial information. This limitation appeared in the body of the claim and/or the preamble before amendment and is addressed in the previous Office action (paper #13). Also,

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note that virtually all financial information of interest is pre-processed to some extent. For example, gross receipts, net income, earnings per share, etc. all require some amount of processing of individual transactions for their determination. Further, some information of interest, such as earnings per share of a particular company, would be available to a typical user of a financial information display system only in some pre-processed form, as such a user would not have access to each and every transaction of that company. Moreover, the PV-Wave 1 reference discloses a financial analytic system which processes financial information and in which selected portions of the processed financial information is displayed graphically. The information which is displayed by the graphing function has been "pre-processed" by the other functions of the PV Wave system. In a virtual reality display environment it would have been obvious to one skilled in the art to display pre-processed financial information which had been "pre-processed" by a financial analytic system because of the historical practice of and interest in displaying financial information of this type in other display environments.

Claims 85, 104, 106, 118 and 123-125 also have been amended to now recite selecting non-integer terrain parameters for a first and second axis, an axis display parameter for a third axis and selecting a portion of the pre-processed financial information as a function of the non-integer terrain parameters. Based on Applicant's specification at pages 7-8 and 12 and Applicant's response to the previous Office action at 11-12, "non-integer terrain parameter" is interpreted as including non-numerical axis demarcations, such as product line, industry sector, selected securities, etc. PV-Wave 1 discloses displaying selected financial information as a

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function of a non-integer terrain parameter (selected stocks) for a first axis, and an axis display parameter (cumulative percentage change) for a second axis. See upper right figure. PV-Wave 1 does not specifically disclose displaying financial information as a function of non-integer terrain parameters for *two* axes, and an axis display parameter for a third axis. However, PV-Wave does support three dimensional graphing and would be capable of such a display or at least suggests such a display. Also, it is common and well-known to consider or display financial information as a function of multiple non-integer parameters, such as in multidimensional spreadsheets. For example, it is common to display financial information in spreadsheets as a function of market geography or product line along one axis and related categories, such as company or sales division along another. Whatever the display environment, spreadsheet, graphical, virtual reality or other, it would have been obvious to one skilled in the art to display financial information as a function of multiple non-integer parameters because of the historical practice of and usefulness of displaying related financial information in this fashion. The remainder of claims 85, 104, 106, 118 and 123-125 are rejected for the reasons stated in the previous Office action.

Dependent claims 87, 97, 98, and 121 have been amended consistent with independent claims 85, 104, 106, 118 and 123-125, do not recite any new limitations which are not addressed above or in the previous Office action and are rejected for the reasons stated in the previous Office action and for the reasons stated above in the rejection of claims 85, 104, 106, 118 and 123-125.

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Claims 92, 102, 115 have been amended to recite that a subset of the metaphors is displayed as a function of a predetermined display parameter. Display of metaphors representing financial information as a function of a predetermined display parameter is old and well known. For example, the upper right figure in PV-Wave 1 discloses a display of metaphors (rectangles or “bars”) representing financial information as a function of a predetermined display parameter (cumulative percentage change). Also note that the color and/or shading of the metaphors in the PV-Wave figure are displayed as a function of whether the cumulative percentage change is positive or negative. Whatever the display environment, graphical, virtual reality or other, it would have been obvious to one skilled in the art to display financial information as metaphors as a function of predetermined display parameters because of the historical practice of and known usefulness of displaying financial information in this fashion. Note, in particular, that the Jacobson article specifically suggests, in a virtual reality environment, representing financial information as metaphors (a field of stalks of wheat) and further suggests displaying them as a function of predetermined display parameters (*e.g.*, “price fluctuations and market trends propagate like wind across the field” and “securities would turn a bright orange when they reach a particular price”), because it allows users to see information in a way that doesn’t require a lot of conscious mental processing, at the fourth page of the article. Jacobson also suggests displaying flashing colored metaphors representing communications data as a function of predetermined display parameters on the same page.

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Dependent claim 94 has been amended consistent with claim 92, does not recite any new limitations which are not addressed above or in the previous Office action and is rejected for the reasons stated in the previous Office action and for the reasons stated above in the rejection of claim 92.

Claims 86, 88-91, 95, 96, 99-101, 103, 105, 107-114, 116, 117, 119, 120 and 122 are rejected for the reasons stated in the previous Office action and for the reasons stated above in the rejection of claims 85, 87, 92, 97-98, 102, 104, 106, 115, 118, 121 and 123-125.

As to claim 126, display of financial information as a function of industry group, country, market or financial instrument type is old and well known. It would have been obvious to one skilled in the art to display financial information as a function of such categories in a virtual reality or any other display environment because, historically, users of financial information have been interested in displays of financial information as a function of such categories.

As to claim 127, display of metaphors via flashing and coloring is discussed in the previous Office action and above in the rejection of claim 42.

Response to Arguments

4. Applicant's remarks accompanying the amendment filed September 28, 1996 have been considered but they are not persuasive. These remarks, to the extent not addressed in the rejection of the claims, are discussed below.

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5. Applicant points out, at page 11 of the response, that “the present invention receives pre-processed financial information from a conventional financial analytic system.” Receipt of pre-processed financial information from a financial analytic system is discussed above and in the previous Office action in the rejection of claims 85, 104, 106, 118 and 123-125.

6. Applicant points out, at pages 11-12 of the response, several features of the invention and the CAPRI financial analytic system which are described in the specification, but which are not claimed. Although the claims are read in light of the specification, limitations therefrom are not incorporated into the claims unless specifically recited.

7. Applicant appears to be suggesting that the rejection is improper based on the fact that seven references were used in the rejection. *See* pages 12 and 19 of the response. The Examiner points out that characterization of the rejection as a seven reference rejection is somewhat misplaced. Three of the seven references (PV-Wave 1, PV-Wave 2 And PV-Wave 3) describe different features of the Visual Data Analysis Software produced by Precision Visuals, Inc. And are more properly viewed as a single reference. Further, the Saffo and Hindus articles are cited primarily as “evidence of the level of skill in the art,” rather than for their specific disclosures. *See* previous Office action at pages 3- 4. Moreover, reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention. *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

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8. Applicant argues, at page 12 of the response, that there is no suggestion, motivation or incentive in the references to combine the references as set forth in the rejection. The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). However, it is not necessary that the references actually suggest, expressly or in so many words, the changes or improvements comprising the applicant's invention. All that is required to show obviousness is that applicant "make his claimed invention merely by applying knowledge clearly present in the prior art. Section 103 requires us to presume full knowledge by the inventor of the prior art in his field of endeavor." *In re Sheckler*, 168 USPQ 716, 717 (CCPA 1971) (citations omitted). The issue of obviousness is not determined by what the references expressly state but by what they would reasonably suggest to one of ordinary skill in the art. *In re Delisle*, 160 USPQ 806, 808-809 (CCPA 1969) (citations omitted). "[T]he question in a section 103 case is not only what the references expressly teach, but what they would *collectively* suggest to one of ordinary skill in the art" *In re Simon*, 174 USPQ 114, 116 (CCPA 1972) (emphasis added).

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9. Applicant suggests, at page 13 of the response, that the examiner has used an impermissible hindsight reconstruction of Applicants invention. The examiner agrees with Applicant that the Jacobson article addresses application of virtual reality to finance and that it suggests using virtual reality for stock market predictions. As pointed out in the previous office action, the Jacobson article has been relied on in the rejection because it suggests use of a virtual reality environment for displaying and analyzing financial information and as evidence of the level of skill in the art. Jacobson specifically suggests using metaphors to display financial information, and varying display attributes of metaphors as a function of display parameters. Further, it should be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. *In re McLaughlin*, 443 F.2d 1392; 170 USPQ 209 (CCPA 1971).

10. At pages 14-18, Applicant discusses the Rohrbugh and Jacobson articles, the Hindus and Saffo articles and finally the PV-Wave references individually, pointing out that each does not specifically disclose certain features of Applicant's invention. In response to Applicant's arguments against the references individually, one cannot show non-obviousness by attacking references individually where the rejections are based on *combinations* of references. *In re*

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Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In response to Applicant's arguments that the references do not specifically disclose certain features of Applicant's invention, Applicant is directed to the discussion above in paragraph 6.

11. Applicant points out, in footnote 3, at page 16, in reference to the previous action: "Regarding claim 97, the rejection states that 'once the idea of using virtual reality for display of financial information is known, the particular data and the particular format used to display the data becomes a design choice of the user.'" The examiner was merely pointing out, (as is clear from the sentence immediately following the one which Applicant quotes) that once the idea of displaying financial information in a virtual reality environment had been suggested, it would have been obvious to one of ordinary skill in the art to use such a system to display types of financial information by categories and subcategories which were well known in other display environments.

12. As to Applicant's arguments at pages 16-17, regarding the newly-added limitation of non-integer terrain parameters, these new limitations are addressed above in the rejection of the claims.

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13. Applicant notes, at page 20 of the response, in regard to the rejection of claim 90, “that there still appears to be some misunderstanding of the present invention” and that “rotation of metaphors is actually one possible display parameter and the rotation of a metaphor describes some predetermined financial attribute selected by the user and is not related to the shape of the metaphor.” Although the examiner may have misunderstood the purpose of the rotation, as described in Applicant’s *specification*, it is not relevant *why* the metaphors rotate, as claim 90 merely recites that the metaphors are rotatable.

14. Applicant argues, at page 18 of the response, that “the objective evidence of secondary considerations submitted by the Applicant, including (I) evidence of commercial success, (ii) industry praise and (iii) copying, clearly demonstrates the nonobviousness of the claimed invention and establishes the requisite nexus between the evidence and the claimed invention.”

In response to Applicant’s allegations of commercial success, although the courts have made it clear that commercial success, in some instances, may be sufficient to overcome a *prima facie* determination of obviousness, as indicated by the case law cited by Applicant, the evidence submitted by Applicant fails to meet the criteria established by the courts and listed under MPEP sections 716.01 through 716.03(d), for at least the following reasons:

(I) The declaration and attached exhibits fail to establish a clear nexus between the alleged commercial success and the invention *as claimed*. The evidence is not commensurate in scope with the scope of the claims. *In re Tiffin*, 171 USPQ 294 (1971). There is nothing that

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directly ties the statements given in paragraphs 16-17 of the affidavit nor the materials in exhibit B with the language specifically recited in the claims. This is particularly true of independent claims 85 and 86, which fail to recite many features (*e.g.*, representation of financial instruments or other securities as metaphors in a virtual reality display environment, displaying the metaphors as functions of multiple display parameters and displaying the metaphors by multiple categorical divisions such as geographic or industrial market) which are present in the in the alleged commercially successful invention. There is no single claim in the application which recites all of the features which appear to be present in the alleged commercially successful product. Further, the courts have held that affidavits or declarations showing commercial success of the invention "described and claimed" or other equivalent indefinite language have little or no evidentiary value. *In re Troutman*, 126 USPQ 56, 59 (CCPA 1960).

(II) Applicant has submitted only evidence of gross sales figures. Gross sales figures do not show commercial success absent evidence as to market share, *Cable Electric Products, Inc. v. Genmark, Inc.*, 226 USPQ 881 (Fed. Cir. 1985), or as to the time period during which the product was sold, or as to what sales would normally be expected in the market, *Ex parte Standish*, 10 USPQ2d 1454 (Bd. Pat. App. & Inter. 1988). *MPEP*, Section 716.03 (b).

(III). The alleged commercial success largely may be due to publicity directed to the invention by way of magazine/news that also were submitted as exhibits. The evidence presented does not rule out such possibilities. Applicant's assertion that the alleged commercial

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success is not due to advertising or extraneous factors is of little evidentiary value absent any objective evidence in support of the assertion.

15. In response to Applicant's reliance on industry praise as evidence of non-obviousness, the evidence submitted by Applicant fails to establish non-obviousness of the claimed invention for at least the following reasons:

(I) The declaration and attached exhibits fail to establish a clear nexus between the industry praise and the invention as claimed. This is particularly true of independent claims 85 and 86, which fail to recite many features (*e.g.*, representation of financial instruments or other securities as metaphors in a virtual reality display environment, displaying the metaphors as functions of multiple display parameters and displaying the metaphors by multiple categorical divisions such as geographic or industrial market) which clearly are present in the praised invention.

(II) The statements given in paragraphs 18-22 of the affidavit and the supporting materials in the exhibits are primarily directed to the *novelty* of the claimed invention, which is not in dispute (*e.g.*, paragraph 18 of the affidavit states that "the METAPHOR MIXER has received numerous awards and industry praise as the worlds *first* and leading virtual reality financial information system." (Emphasis added). Evidence establishing that Applicant was first to represent financial information in a virtual reality system cannot establish the non-obviousness

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of the claimed invention, particularly in light of the references of record, which clearly suggest representing financial information in a virtual reality system.

16. In response to Applicant's allegations of copying as evidence of non-obviousness, the evidence submitted by Applicant fails to meet the criteria established by the courts and listed under MPEP section 716.06, for at least the following reasons:

(I) More than the mere fact of copying is necessary to make that action significant because copying may be attributable to other factors such as a lack of concern for patent property or contempt for the patentee's ability to enforce the patent. *Cable Electric Products, Inc. v. Genmark, Inc.*, 226 USPQ 881 (Fed. Cir. 1985). Evidence of copying is persuasive of nonobviousness when an alleged infringer tries for a substantial length of time to design a product or process similar to the claimed invention, but fails and then copies the claimed invention instead. *Dow Chemical Co. v. American Cyanamid Co.*, 2 USPQ2d 1350 (Fed. Cir. 1987). No evidence has been presented indicating that the alleged copiers have tried and failed to produce Applicants invention. *See also Vandenberg v. Dairy Equipment Co.*, 224 USPQ 195, 199 (Fed. Cir. 1984) (evidence of copying not found persuasive of nonobviousness) and *Panduit Corp. v. Dennison Manufacturing Co.*, 227 USPQ 337, 348, 349 (Fed. Cir. 1985), vacated on other grounds, 475 U.S. 809, 229 USPQ 478 (1986) (evidence of copying found persuasive of nonobviousness where admitted infringer failed to satisfactorily produce a solution after 10 years of effort and expense).

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17. For the above reasons, and for the reasons presented in the Office action dated October 31, 1995 (paper #9) the declaration Paul Marshall under 37 C.F.R. § 1.132, filed July 20, 1995, (paper #7) and the attached exhibits, are insufficient to overcome the rejection of the claims.

Double Patenting

18. Claims 85-92 and 94-127 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as unpatentable over claims 85-125 of copending application Serial No. 07/954,775.

19. Claims 85-92 and 94-125 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting for the reasons set forth in the previous Office action (paper # 13).

20. The limitations of claims 126 and 127 (108) are recited in claims 87 and 88 (775).

21. The obviousness-type double patenting rejection is a judicially established doctrine based upon public policy and is primarily intended to prevent prolongation of the patent term by prohibiting claims in a second patent not patentably distinct from claims in a first patent. *In re Vogel*, 164 USPQ 619 (CCPA 1970). A timely filed terminal disclaimer in compliance with 37 C.F.R. § 1.321(b) would overcome an actual or provisional rejection on this ground provided the

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conflicting application or patent is shown to be commonly owned with this application. See 37 C.F.R. § 1.78(d).

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire **THREE MONTHS** from the date of this action. In the event a first response is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than **SIX MONTHS** from the date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven R. Yount whose telephone number is (703) 306-2906. The examiner can normally be reached on Monday through Thursday and every other Friday from 8:00 AM to 5:00 PM.

24. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gail Hayes, can be reached at (703) 305-9711. The fax phone number for this Group is (703) 305-9731.

25. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, whose phone number is (703) 305-3800.

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S.Y.

Steven R. Yount
November 14, 1996

Gail Hayes

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SUPERVISORY PATENT EXAMINER
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